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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,063	06/29/2005	Koji Utsugi	8017-1172	3808
466 7590 06/17/2011 YOUNG & THOMPSON 209 Madison Street Suite 500 Alexandria, VA 22314			EXAMINER ENIN-OKUT, EDUE	
			ART UNIT 1727	PAPER NUMBER
			NOTIFICATION DATE 06/17/2011	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

# Office Action Summary

## Application No.

10/541,063

## Applicant(s)

UTSUGI ET AL.

## Examiner

Edu E. Enin-Okut

## Art Unit

1727

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**ELECTROLYTE SOLUTION FOR SECONDARY BATTERY**  
**AND SECONDARY BATTERY USING SAME**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 25, 2011 has been entered. Applicant has amended claim 13. Claim 13 is pending.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

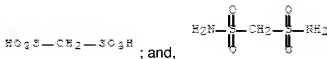
***Claim Rejections - 35 USC § 102***

3. The rejection of claim 13 under 35 U.S.C. 102(a) and 35 U.S.C. 102(e) as being anticipated by Suzuki (JP 2004-193408 A; see JPO Abstract, Derwent Abstract, and CAS citation) is withdrawn because applicant's arguments were persuasive.

4. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Frediani (EP 1215304 A1; see also Derwent Abstract and Chemical Abstract Service (CAS) citation).

*Regarding claim 13*, Frediani discloses a galvanic bath ("electrochemical device") that uses an electrolyte which includes additives, such as additives with the following structure (Abstract, para. 13; Derwent Abstract; CAS citation):

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**Claim Rejections - 35 USC § 102 / 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 13 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schmidt et al. (KR 2001-0067251; see Derwent Abstract, machine translation, and Chemical Abstract Service (CAS) citation).

*Regarding claim 13*, Schmidt discloses an electrolyte useful in electrochemical cells that includes an additive, a compound having the formula  $\text{X}-(\text{CYZ})_m-\text{SO}_2\text{N}(\text{CR}_1\text{R}_2\text{R}_3)_2$  (where  $\text{X} = \text{H}$ ,  $\text{F}$ ,  $\text{Cl}$ ,  $\text{C}_n\text{F}_{2n+1}$ ,  $\text{C}_n\text{F}_{2n-1}$ , or  $(\text{SO}_2)_k\text{N}(\text{CR}_1\text{R}_2\text{R}_3)_2$ ; and,  $\text{Y} = \text{H}$ ,  $\text{F}$ , or  $\text{Cl}$ ; and,  $\text{Z} = \text{H}$ ,  $\text{F}$ , or  $\text{Cl}$ ; and,  $\text{R}_1$ ,  $\text{R}_2$ ,  $\text{R}_3 = \text{H}$  and/or an alkyl group, a fluoro alkyl group, or a cycloalkyl group; and,  $m=0-9$  (not 0 if

X=H), n=1-9, and k=0 if m=0 or k=1 if m=1-9) (Derwent Abstract, p. 2-3; machine translation, p. 3; CAS citation).

Alternatively, it would have been obvious to include the additive taught by Schmidt, where the additive includes those with a structure as recited the claim, in an electrolyte of a electrochemical cell because Schmidt teaches that the additive has good physical and chemical stability, high electrochemical stability, low volatility, high flash point, good miscibility with other common solvents, good conductivity properties, and can assist in lowering the flammability of the electrolyte (see also Schmidt, Derwent Abstract and machine translation, Abstract).

### ***Double Patenting***

8. The provisional rejection of claim 13, on the ground of nonstatutory obviousness-type double patenting, as being unpatentable over claims 1 and 12 of copending Application No. 10/582,855 is maintained. (The examiner notes that no salient arguments are presented therefor.)

Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application claims an electrolyte additive. The disclosure of the instant application differs from Application No. 10/582,855 in that the instant application does not teach the use of the additive in a secondary battery. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the additive in a lithium secondary battery to improve its capacity retention ratio and suppress an increase of resistance during storage (see instant application disclosure, para. 32).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

In maintaining this ground of rejection, the examiner notes that applicant has requested the double patenting rejection be forestalled until the copending application issues as a patent. In reply, the examiner notes that the present rejection is a provisional obviousness-type double patenting rejection.

### ***Response to Arguments***

9. Applicant's arguments, filed on May 25, 2011, with respect to the Schmidt reference is not persuasive. Applicant argues that due to an amendment to the claim 13, which presently recites "... with the proviso that  $R_1$  and  $R_2$  cannot be a fluorine ... *when  $R_2$  and  $R_3$  are  $-N(CH_3)_2$ .*" [emphasis added], the Schmidt reference no longer anticipates the claim. However, the examiner disagrees. As discussed above, the methanedisulfonamide with the structure as presented in rejection reproduced above is one example of the additives taught by the Schmidt reference. Schmidt teaches that the additive is a compound having the formula  $X-(CYZ)_m-SO_2N(CR_1R_2R_3)_2$  (where  $X = H, F, Cl, C_nF_{2n+1}, C_nF_{2n-1}$ , or  $(SO_2)_kN(CR_1R_2R_3)_2$ ; and,  $Y = H, F$ , or  $Cl$ ; and,  $Z = H, F$ , or  $Cl$ ; and,  $R_1, R_2, R_3 = H$  and/or an alkyl group, a fluoro alkyl group, or a cycloalkyl group; and,  $m=0-9$  (not 0 if  $X=H$ ),  $n=1-9$ , and  $k=0$  if  $m=0$  or  $k=1$  if  $m=1-9$ ). The skilled artisan would readily appreciate that the additive formula taught by the Schmidt reference encompasses other structures recited by the now amended claim 13.

10. Applicant's arguments with respect to the Suzuki reference (see p. have been fully considered and, due to the submission of certified translation of foreign priority document JP 2003-416516 (filed in Japan on December 15, 2003) on January 11, 2011, are persuasive as noted above.

### ***Conclusion***

11. The prior art made of record and not relied upon in the previous Office Action, Michot et al. (US 6,620,546) and Martyak et al. (WO 2004/101860), remain pertinent to applicant's disclosure.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Edu E. Enin-Okut** whose telephone number is **(571) 270-3075**. The examiner can normally be reached on Monday to Thursday, 7 a.m. - 3 p.m. (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara L. Gilliam can be reached on (571) 272-1330. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edu E. Enin-Okut/  
Examiner, Art Unit 1727

/Barbara L. Gilliam/  
Supervisory Patent Examiner, Art Unit 1727